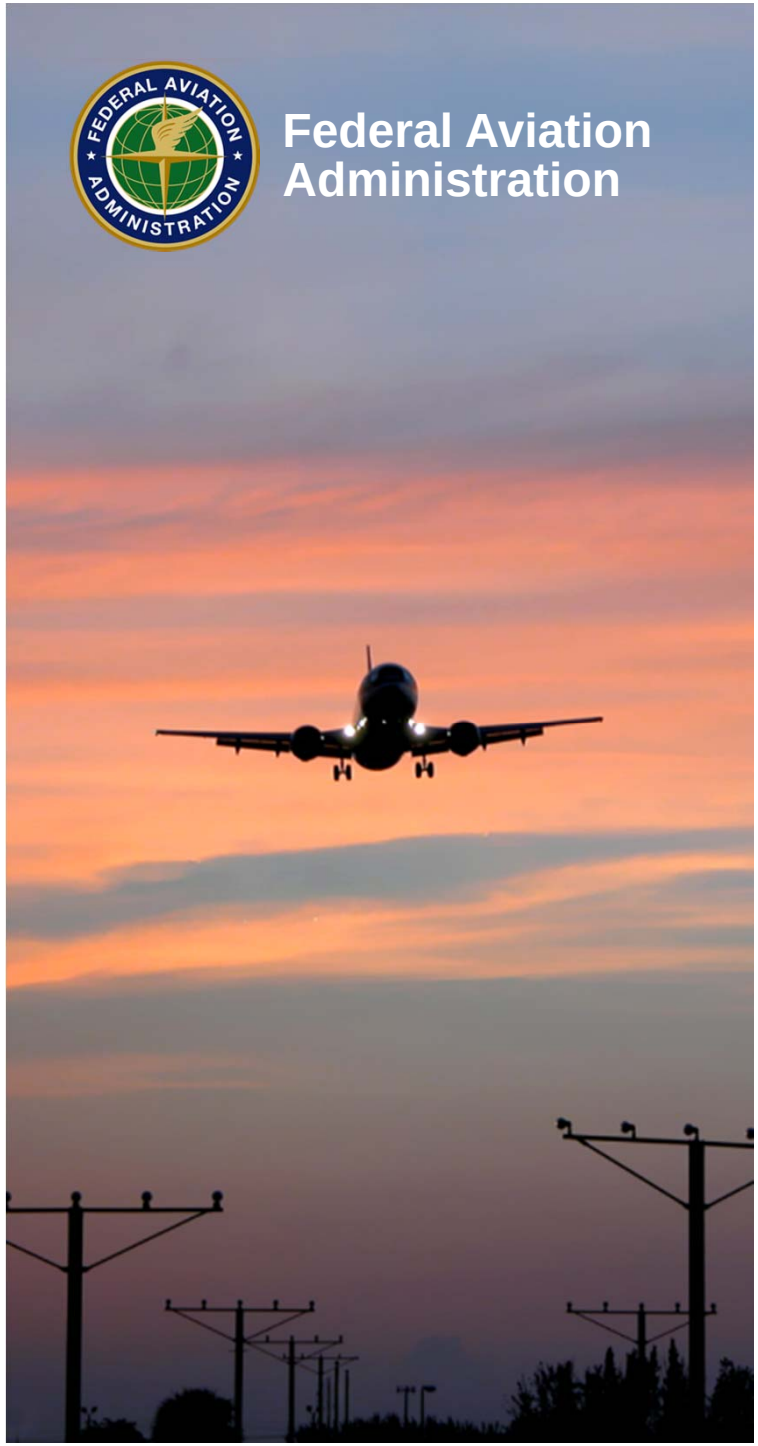
Safety Summit

14 CFR Part 145
Air Agencies

Presented to: **145 Air Agencies**

By: **Diana Frohn, Office Manager**

Date: **Thursday, March 22, 2012**




Welcome

Housekeeping

- Restrooms
- Break room
- Emergency evacuation
- Cell phone etiquette
- Comment Cards

Orlando FSDO-15 Management Team

Diana L. Frohn

Manager

Orlando FSDO-15 Management Team

Jim Reedy

Unit 1

Frontline Manager

Orlando FSDO-15 Management Team

James "Max" McConnell

Unit 2

Frontline Manager

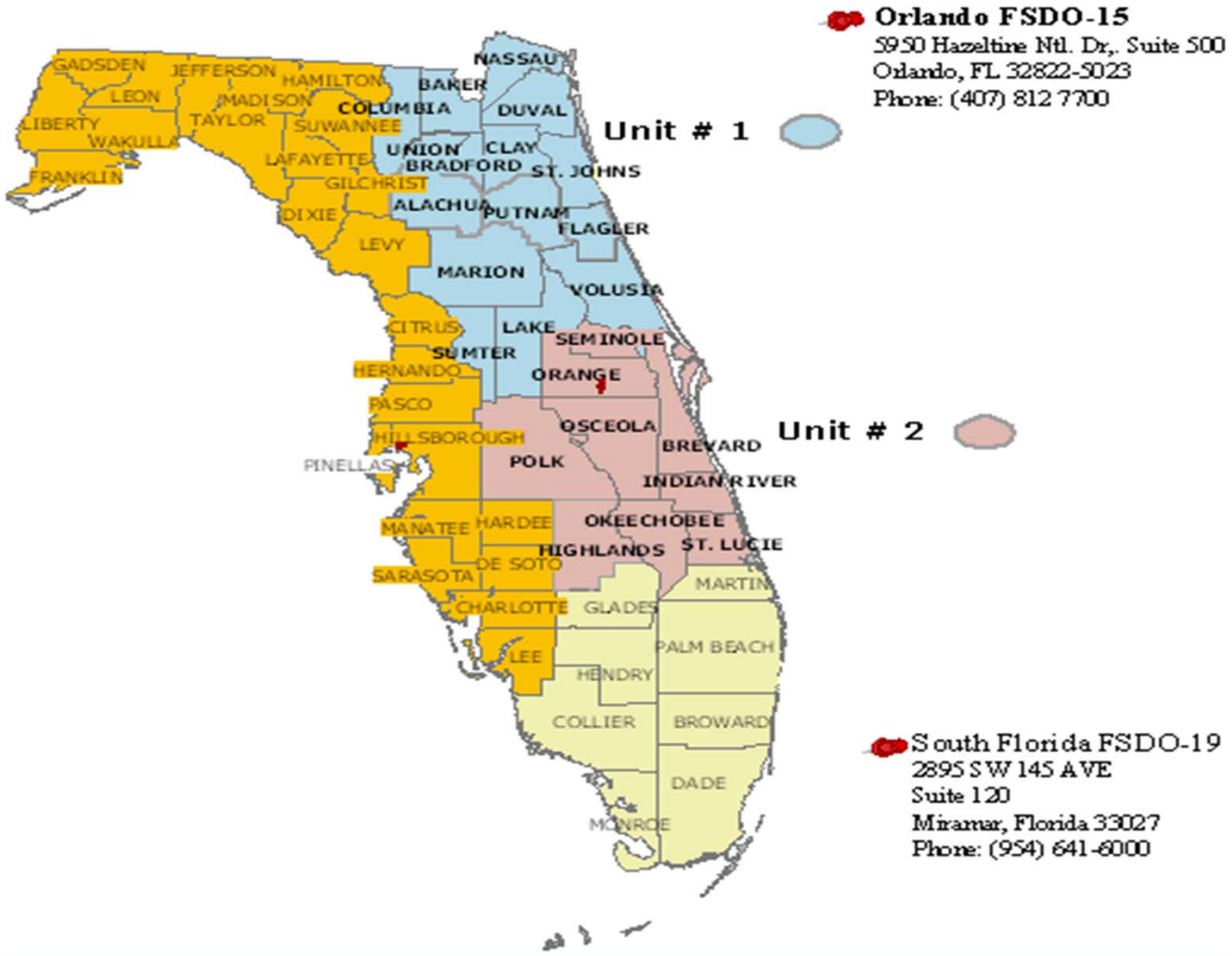
Orlando FSDO-15 Management Team

Roberto Echevarria

Unit 3

Frontline Manager

FSDO Boundaries—Part 141/142



Aviation Safety

Associate Administrator for Aviation Safety
AVS-1
Peggy Gilligan, AVS-1
John J. Hickey, AVS-1

Office of Aerospace Medicine (**AAM**)
Frederick E. Tilton, MD, AAM-1

CAMI

9 Regions

15 Field Offices

Aircraft Certification Service (**AIR**)
Dorenda Baker, AIR-1

4 Directorates

39 Field Offices

Flight Standards Service AFS-1
John M. Allen, AFS-1
John McGraw-AFS-2 HQ
Ray Towles-AFS-2 Field

Registry

8 Regions

109 Field Offices

Office of Accident Investigation (**AAI**)
Tony Fazio, AAI-1

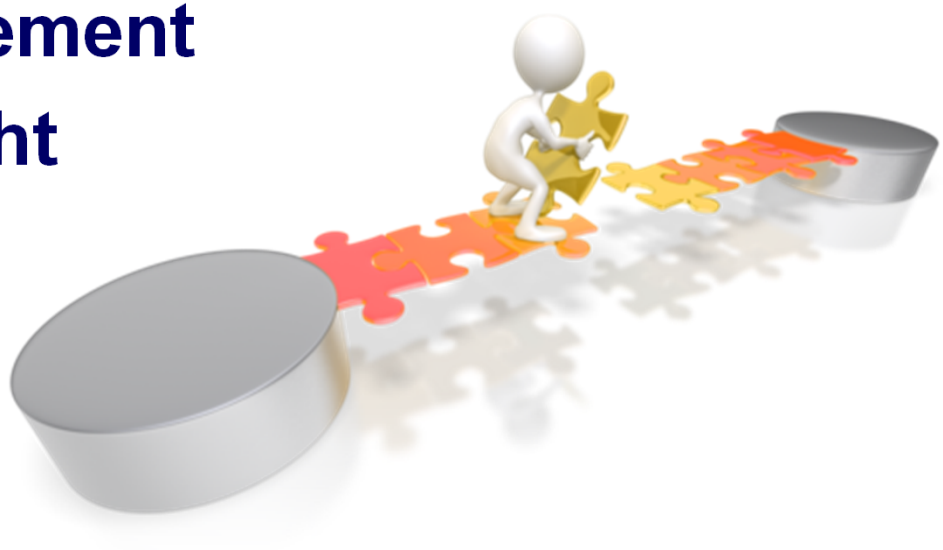
Office of Quality, Integration, & Executive Services (**AQS**)
Tina Amereihn AQS-1

Office of Rulemaking (**ARM**)
Pamela Hamilton, ARM-1

Air Traffic Safety Oversight Service (**AOV**)
Anthony Ferrante, AOV-1

AVS Functional Responsibilities

- Standards
- Certification
- Continued Operational Safety
- Delegation Management
- Air Traffic Oversight



Flight Standards Service

- **Functions**
  - **Standards**
    - **Airmen – pilots, mechanics, dispatchers**
    - **Operators – commercial, general aviation, etc.**
    - **Agencies – repair stations, flight schools, etc.**
  - **Certification**
    - **All of the above**
    - **Airworthiness certifications**
  - **Continued Operational Safety**
    - **System safety – e.g., ATOS, SEP, etc.**
    - **Surveillance, investigations, safety education**
    - **Compliance enforcement**
  - **Delegation Management**
    - **Individual**
    - **Organizational**
- **Size of Workforce (as of June 18, 2011): 5,240**

Orlando FSDO Updates

- Staffing
  - Two operations ASIs added FY 2011
  - Two operations ASIs coming FY 2012
- FSDO re-organization
  - Air carrier/agency oversight units
  - Airmen certification unit
  - “On-Demand”/geographic uni
- Timeliness—improvements?

Questions?

Comments?

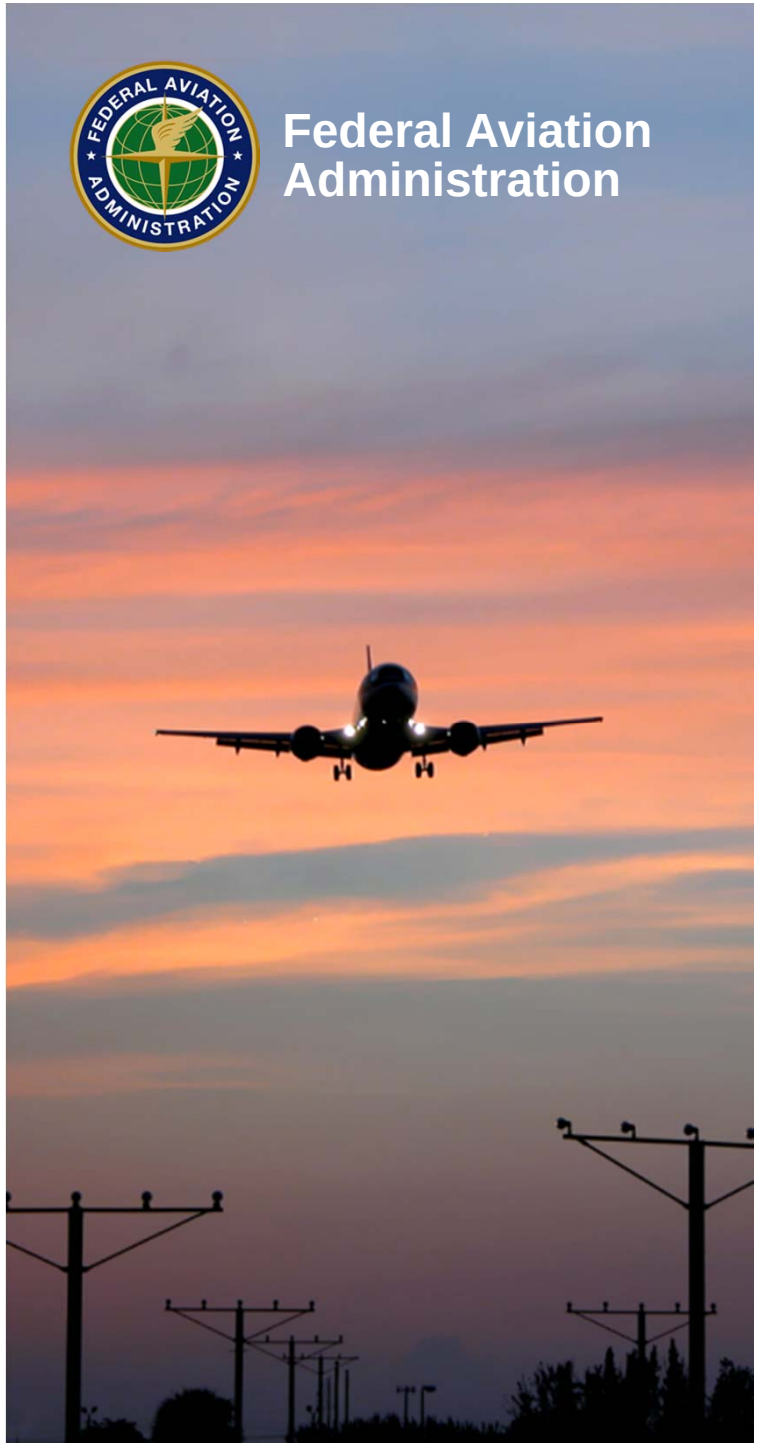
Safety Summit

AIR AGENCY INTRODUCTIONS

Presented to: **145 Air Agencies**

By: **Max McConnell, Frontline Manager**

Date: **Thursday March 22, 2012**



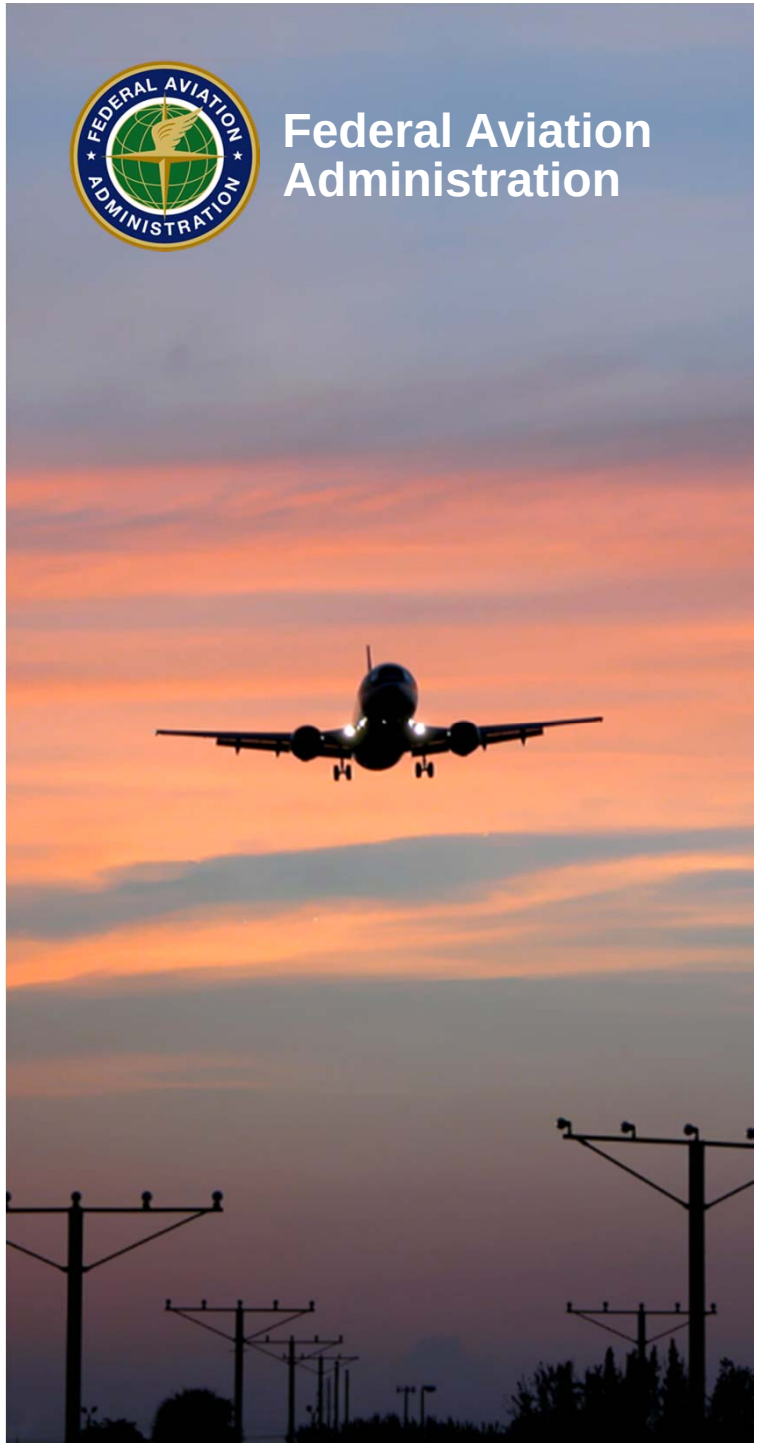
Safety Summit

RIC PERI

Presented to: **145 Air Agencies**

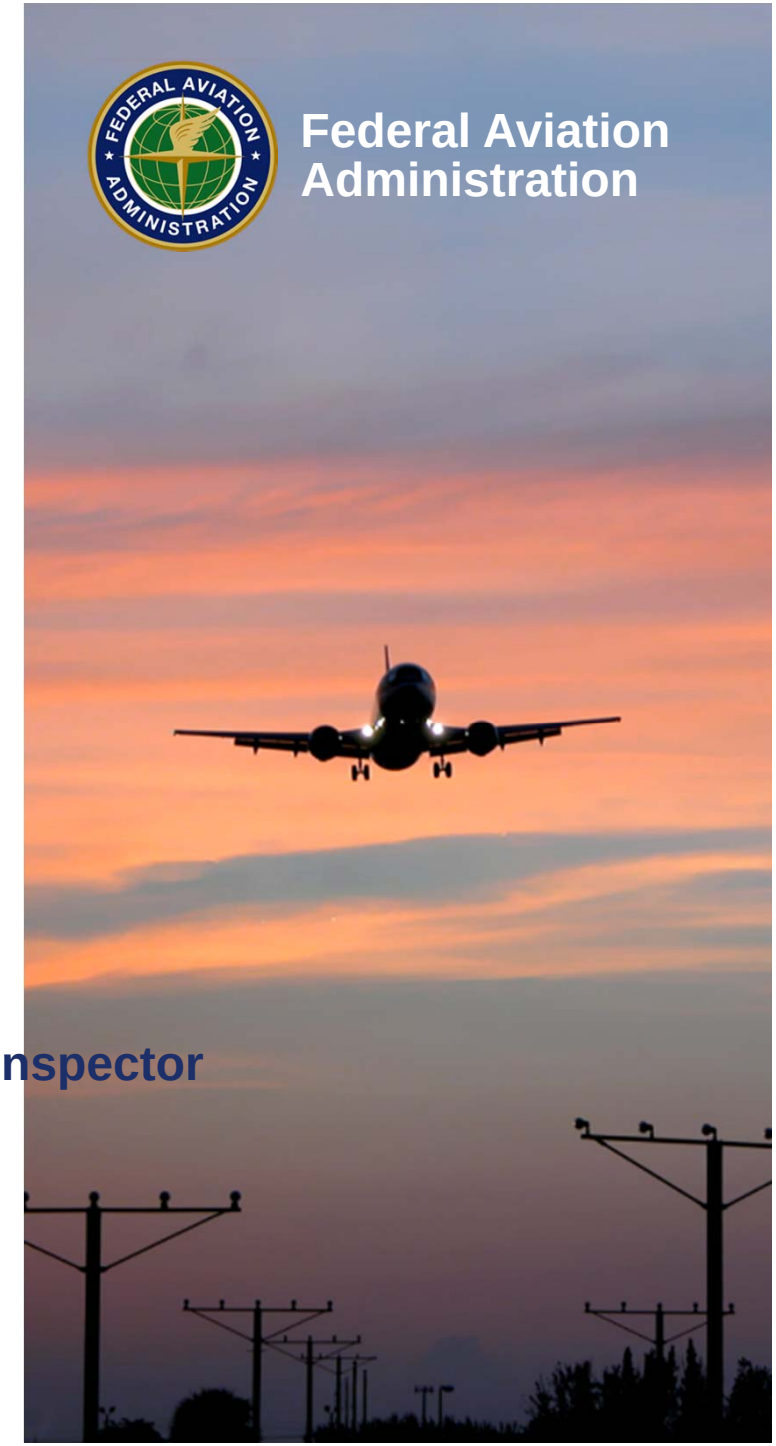
By: **Orlando FSDO-15, Management**

Date: **Thursday March 22, 2012**



Safety Summit

Safety Management Systems (SMS)



Presented to: **145 Air Agencies**

By: **Scott Strickland, Principal Airworthiness Inspector**

Date: **Thursday, March 22, 2012**

AGENDA

- **SMS Basics**
- **Certificate Holder SMS**
- **SMS information resources**
- **Q&A**

What is Safety Management System (SMS) ?

- **FAA Order 8000.369, Safety Management System Guidance, definition:**
  - An integrated collection of processes, procedures, and programs that ensures a formalized and proactive approach to system safety through risk management.

SMS: What it is / What it isn't

SMS is a set of management decision-making processes to help an organization manage its safety

- **SMS is not a substitute for compliance**
- **SMS is not a substitute for oversight**
- **SMS is not a replacement for system safety**

Safety Management System - has four components

SMS Component	Description
Policy	Establishes senior management's commitment to continually improve safety; defines the methods, processes, organizational structure needed to meet safety goals
Safety Risk Management	Includes identification of hazards and analysis and assessment of associated risk; development and implementation of appropriate risk controls
Safety Assurance	Evaluates the continued effectiveness of implemented risk control strategies; supports the identification of new hazards
Safety Promotion	Includes actions to create a positive safety culture within all levels of the workforce characterized by, for example, communications, training, decision making and information sharing

Examples of Safety Management System components

SMS Component	Internal SMS Example (AVSSMS)	External SMS Example (Certificate Holder / Service Provider SMS)
Policy	**Destination 2025 (FAA strategic plan), FAA Order 8000.369, etc.**	**Appointment of key safety personnel, creation of emergency response plan**
Safety Risk Management	**Regulations and standards (an output of internal SRM processes)**	**Risk controls (e.g., hiring standards above the FAA minimum)**
Safety Assurance	**Current: ATOS Future (2012+): Part 5 & Part 119, and ATOS updates**	**Any process that makes sure risk controls work (e.g., an audit)**
Safety Promotion	**This SMS briefing, SMS training**	**Safety training, safety-related communications**

ICAO Annex 6

- **“From 1 January, 2009,** States shall require**, as part of their safety programme,** that an operator implement **a safety management system acceptable to the State of the Operator…”**

AGENDA

- SMS Basics
- Certificate Holder SMS
- SMS information resources
- Q&A

Why Would a Certificate holder Implement SMS?

- **To comply with legal responsibilities for safety**
- **To improve its safety**
- **To reduce accident costs**
- **To reduce cost through more efficient processes**

What is the SMS Pilot Project?

- **Began in 2007**
- **Led by SMS Program Office (AFS-900)**
- **Consists of voluntary participants from 14 CFR Parts 121, 135, 141 and 145**
- **Helps industry gain experience in developing SMS**

SMS Pilot Project Participant examples

- American Airlines (121)
- Delta Airlines (121)
- Federal Express (121)
- US Airways (121)
- Flight Options LLC (135)
- Jet Solutions LLC (135)
- PHI, Inc. (135)
- Pemco World Air Services (145)
- West Virginia Air Center / Bombardier (145)
- St. Louis University / Parks College (141)

AGENDA

- SMS Basics
- Certificate Holder SMS
- SMS information resources
- Q&A

FAA SMS Information

www.faa.gov/about/initiatives/sms/

SMS Explained	Get quickly up to speed! What is SMS? Where did it come from? How does it work?
SMS Rulemaking Activities	Information regarding our FAA Aviation Safety rulemaking activities.
SMS International Collaboration	Information about our SMS international collaboration efforts.
Reference Library	Information at your fingertips. Access a wide range of guide books, articles, websites, and training materials for you and your staff.
SMS Pilot Projects	Have you heard about the FAA Voluntary Implementation Efforts and Pilot Projects? Learn about current (and future) planned activities.
FAQs	Get the answers to some frequently asked questions.
Specifics by Aviation Industry Type	Information tailored to your specific sector (ex: Air Carriers, Air Taxi, Air Tour, Maintenance under 121, Repair Stations, Non-Certificated Repair Facilities, Flight Schools, Simulator Facilities, Airports, etc.)
Contacts	Contact information for FAA offices working with SMS.

Summary

- **SMS is the next logical step in system safety**
- **Many certificate holders are voluntarily implementing SMS**
- **SMS will be required for 14 CFR Part 121 operators.**

Questions

Comments

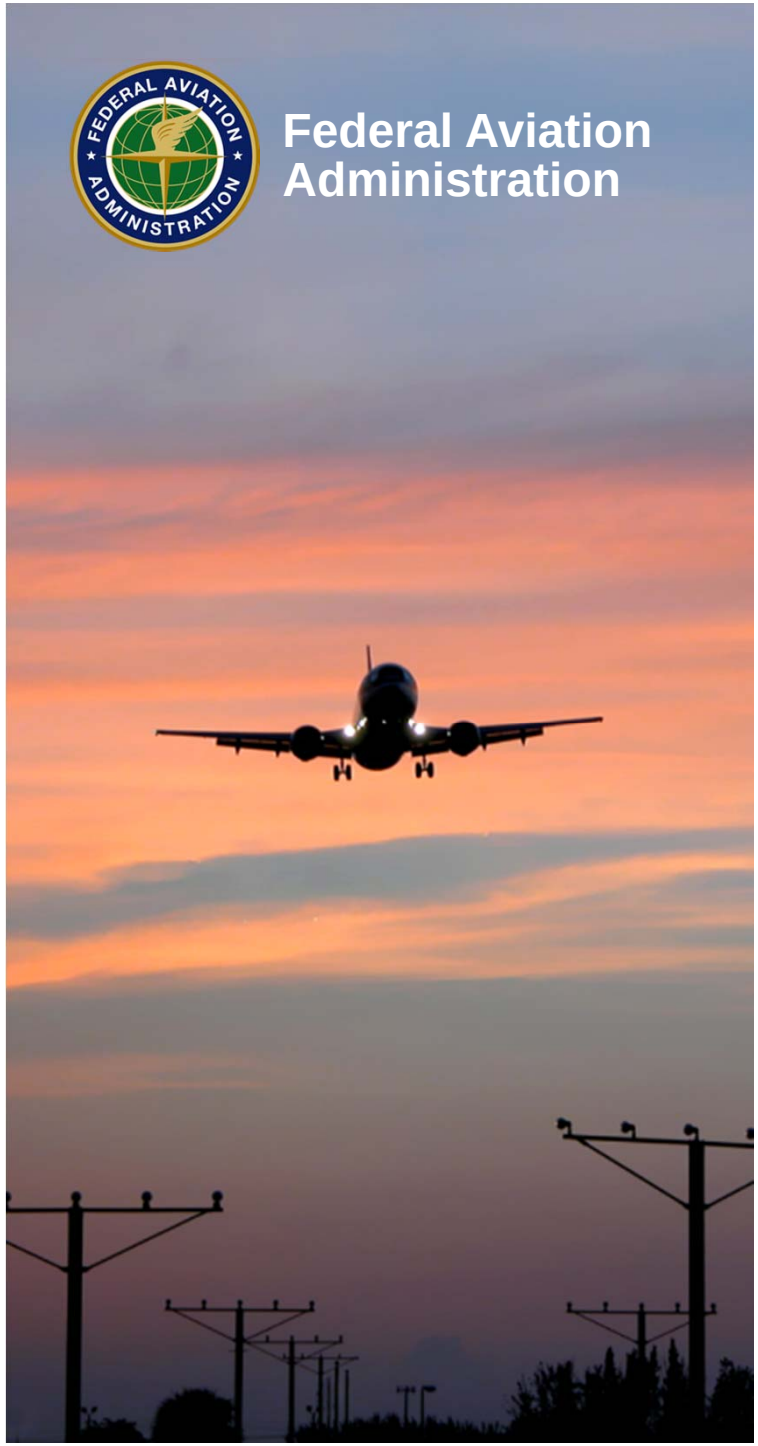
Safety Summit

LUNCH BREAK

Presented to: **145 Air Agencies**

By: **Orlando FSDO-15, Management**

Date: **Thursday March 22, 2012**



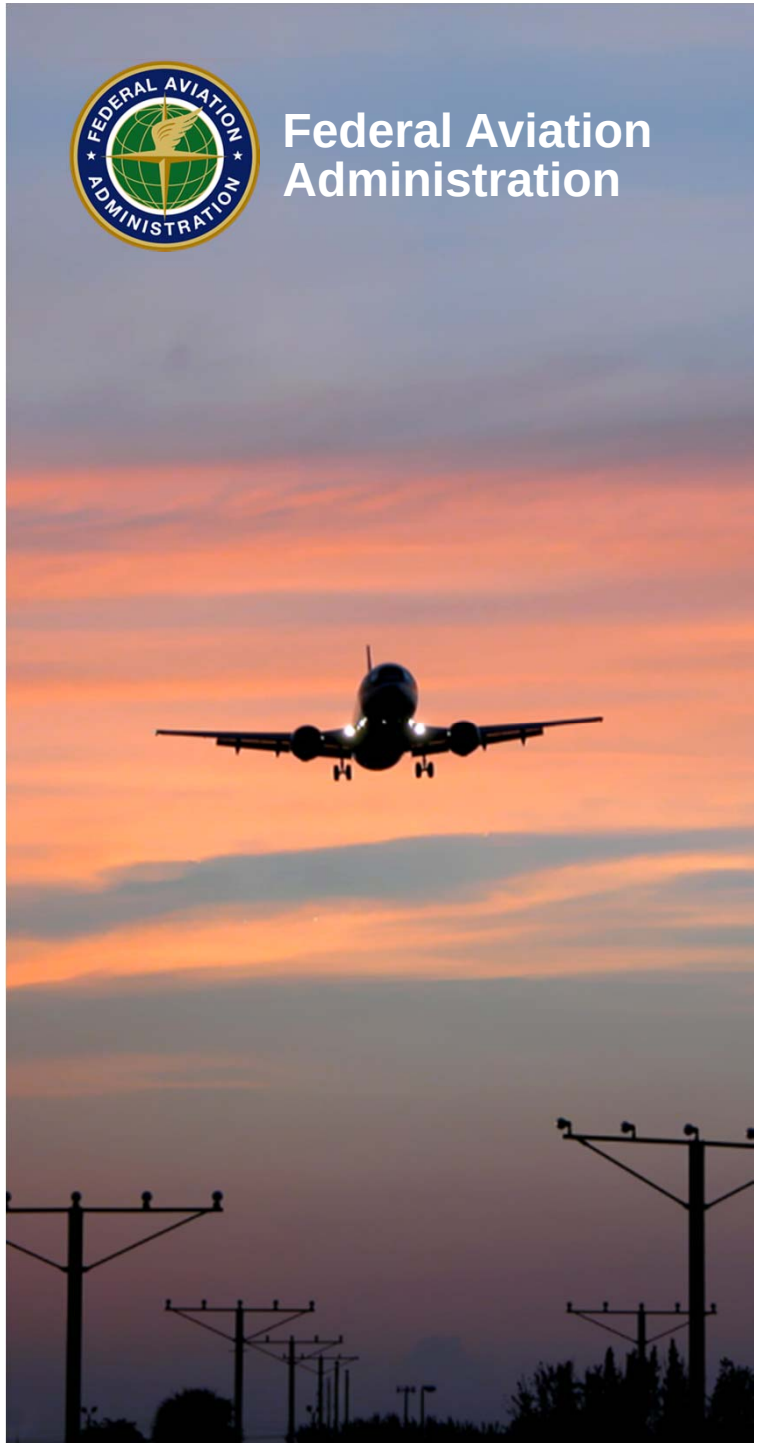
Safety Summit

Hazardous Materials information for FAR Part 145 Certificate Holders

Presented to: **145 Air Agencies**

By:**Joe Gramzinski, Principal Maintenance Inspector**

Date: **Thursday March 22, 2012**



FAA Hazmat Enforcement Organization

- 8 Regional FAA Hazmat Managers
- ASI.FAA.GOV/Hazmat.asp
- 149 dedicated hazmat positions

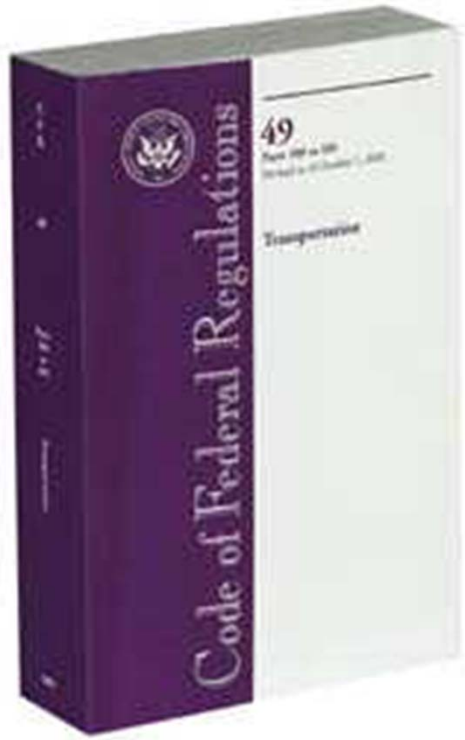
DOT and Hazardous Materials (Dangerous Goods)

The US Department of Transportation (DOT) regulates the transportation of hazardous materials by all modes of transportation within (to, from, and through) the United States.

This includes hazardous materials carried by passengers and crewmembers.

49 CFR

- **49 CFR (Title 49 of the Code of Federal Regulations) is where many US Department of Transportation regulations are found.**
- **Parts 171-180 of 49 CFR contain the Hazardous Materials Regulations (the "HMR").**



Definitions 49 CFR 171.8

- **Hazmat Employer**
- **Hazmat Employee**
- **Hazardous Material**
- **If an FAA certified repair station is a Hazmat Employer it must comply with the Hazardous Materials Training Requirements outlined in 49 CFR**

Hazmat Training Requirements - Subpart H

- **172.700 – Purpose and Scope**
- **172.702 – Applicability and responsibility for training and testing**
- **172.704 – Training requirements**
  - General awareness
  - Function specific training
  - Safety training
  - Security awareness training

What is a hazardous material?

The DOT definition:

"Hazardous Material means a substance or material, which has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety, and property when transported in commerce, and which has been so designated."

--49 CFR 171.8

So what does that mean?

Hazardous Material must be Classified for Transportation

To aid in determining when something is a hazardous material for transportation, the DOT classifies material into nine different hazard classes.

Each of these hazard classes has its own technical and scientific criteria.

Hazard Classes

There are nine DOT hazard classes. Some classes are further divided into divisions.

1 - Explosives

2 - Gases

3 - Flammable Liquids

4 - Flammable Solids

5 - Oxidizers & Organic Peroxides

6 - Poisons & Infectious Substances

7 - Radioactive Materials

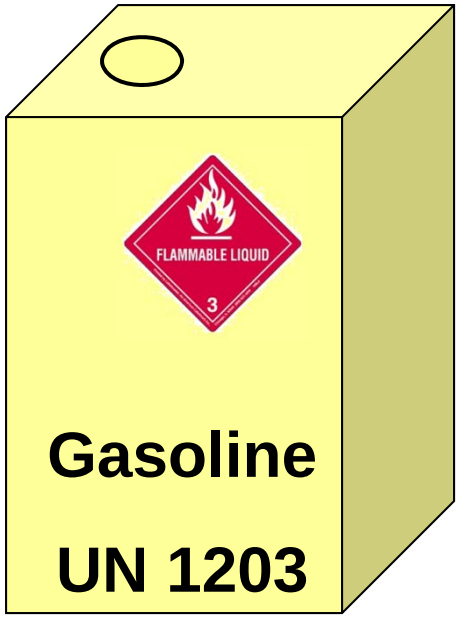
8 - Corrosives

9 - Miscellaneous

Identifying Hazardous Materials in Packages

The DOT usually requires the outer packagings of hazardous materials packages to have certain hazard labels and markings.

It is important to recognize these DOT hazard labels and markings since they can identify packages that contain hazardous materials.



DOT Hazard Labels

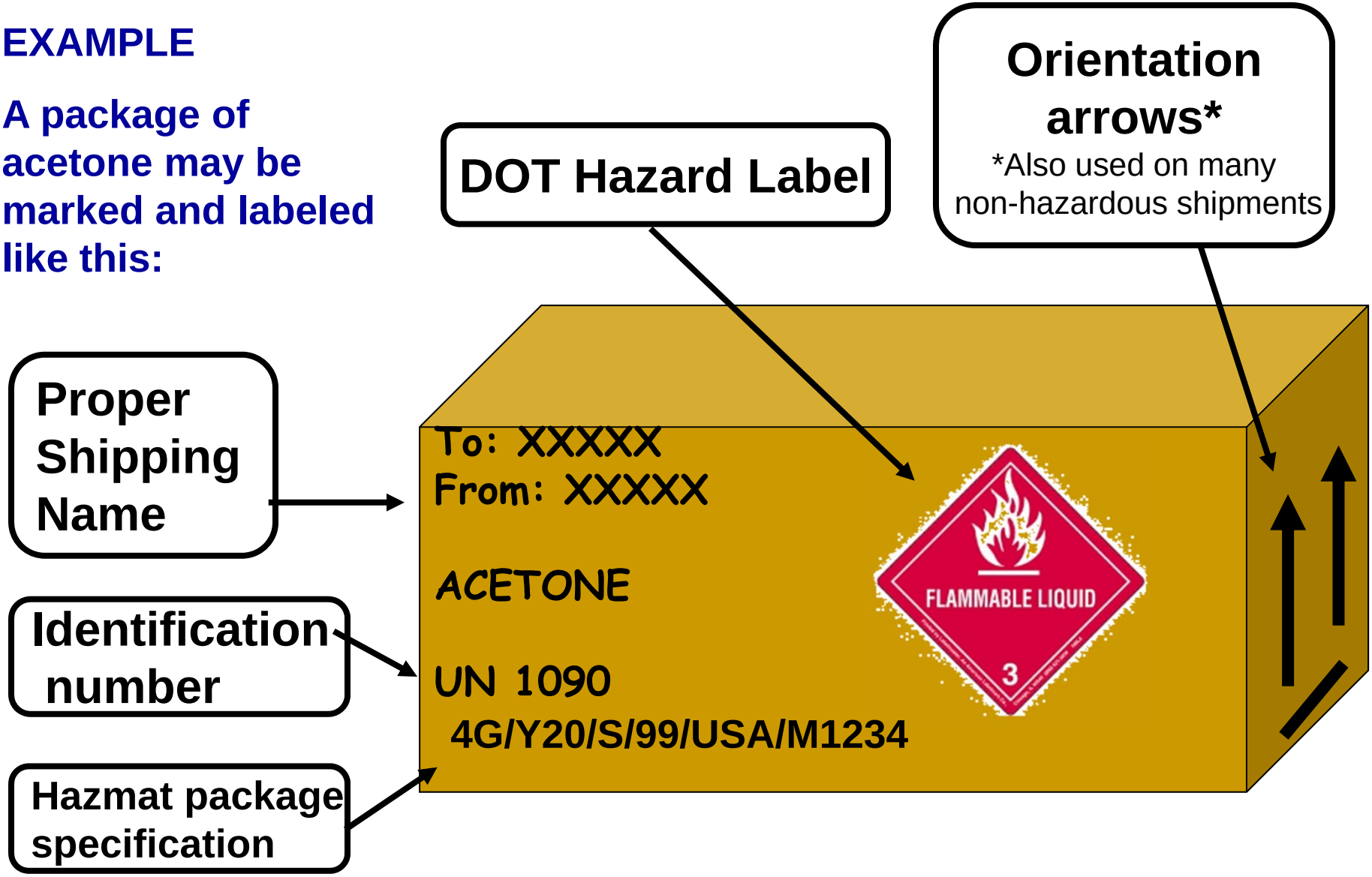
- **DOT Hazard labels**

- **Cargo Aircraft Only label**

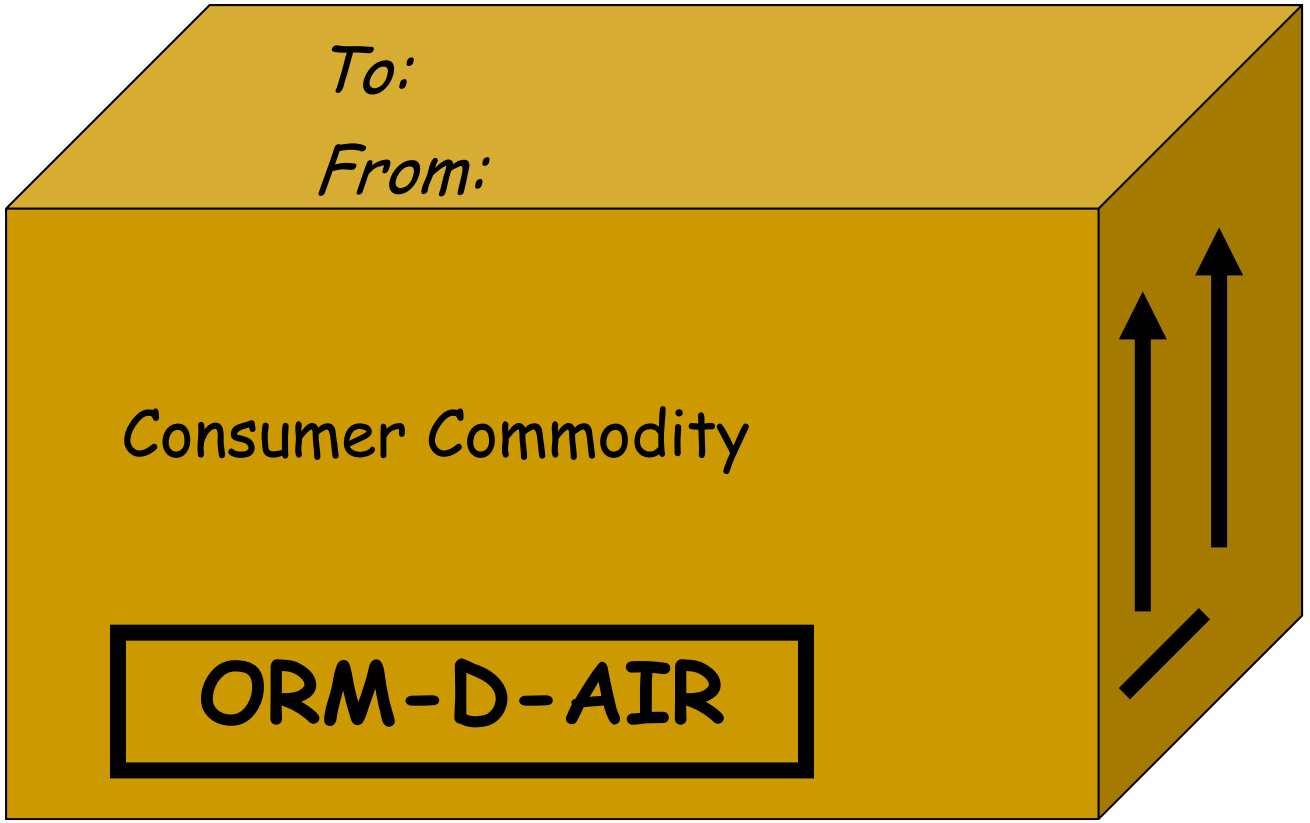
DOT Chart 2 has a listing and display of DOT hazard labels & markings.

EXAMPLE

A package of acetone may be marked and labeled like this:

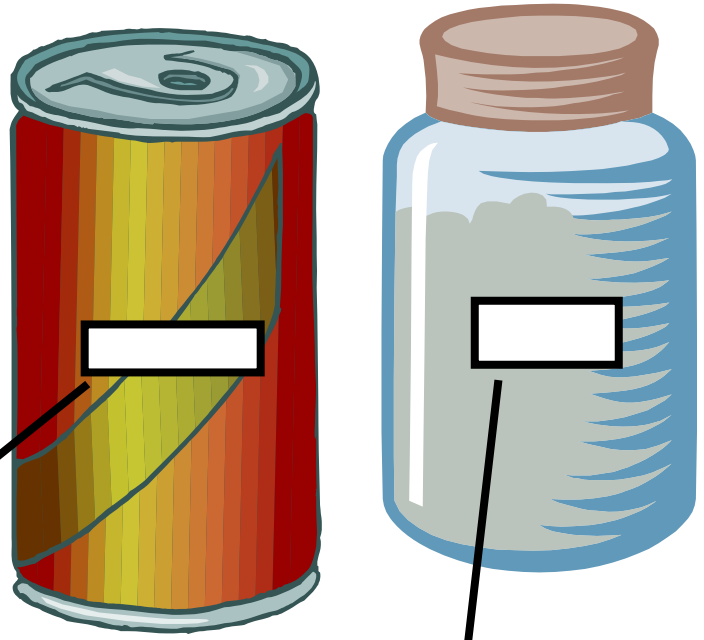


Some hazmat packages are not required to have DOT hazard labels. A package of spray paint may look like this:



Labels on Product Containers

The DOT does not require hazard labels or markings on inner packagings. But consumer and worker safety regulations do require product containers to indicate when they contain hazardous products.



CAUTION: Contents flammable.

WARNING: **Reacts violently with water.**

More Restrictive, But Not Less

Air Carriers may choose to have more restrictive hazmat rules than the US DOT but cannot be less restrictive.

Federal employees do not enforce air carrier policies that are more restrictive that the regulations.

Not all “Chemicals” are Hazardous Materials

Many industrial and consumer products contain a variety of chemicals.

That does not mean that they are hazardous materials.

Some Common Hazardous Materials used in aviation

- Oxygen generators
- Paint
- Compressed gas cylinders
- Fire Extinguishers
- Smoke Hoods
- Tritium signs
- Batteries

Non-Hazardous (Not Restricted)

These items do not normally meet the DOT definition of a hazardous material or are excepted from the regulations:

- Baking soda (sodium bicarbonate)
- Beer & wine
- Blue ice packs
- Candles & incense
- Cooking oils
- Glue: **Children's / School /Carpenter**
- Hydrogen peroxide 1%–7% solution **(drugstore strength)**
- Laundry detergent **(household)**
- Motor oil **(non-waste)**
- Pressurized sports balls[1]
- Empty SCUBA cylinders—(less than 40 psi)
- Water-based paints

Revised FAA Hazmat training requirements

- **Published on October 7, 2005**
  - 70 FR 58831
- **Affected FAR Parts 119, 121, 135, 145**
- **Part 145**
  - Existing hazmat training requirements
  - Linked to FAA certificate
  - Notification to employees
  - Acknowledgement or air operators notice

Part 145.53 Issue of Certificate

- **All Repair Stations in the US shall certify in writing that their hazmat employees and those of their contractors and subcontractors are trained as required by 49 CFR.**

- **If an FAA Certified Repair Station, its contactors or subcontractors have no hazmat employees, they are not subject to the Subpart H hazmat training requirements.**

- **Please review rule for specifics**

Part 145 Notification

- **FAR 145.206 (b)**
- **Repair Station must notify certain of its employees and contractors that handle hazmat components on an air operator's equipment of that air operator's will or will not carry hazmat status.**
- **Please review for specifics**

Part 145 Acknowledgement

- **FAR 145.206 (a)**
- **Repair Station must acknowledge receipt of air operators notification of its will or will not carry hazmat status.**

- **Please review for specifics**

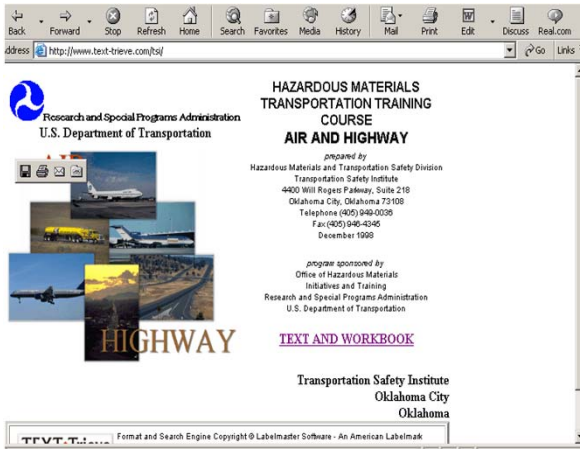
Web Site Information

- **Pipeline and Hazardous Materials Safety Administration**
  - http://hazmat.dot.gov/hazhome.htm
- **FAA HM and HM Branch Manager information**
  - http://ash.faa.gov/Hazmat.asp

Hazmat Information

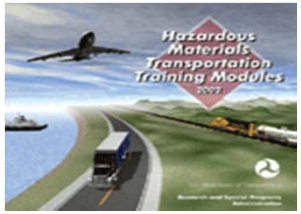
RSPA Hazmat Training Materials Available

GENERAL AWARENESS TRANSPORTATION COURSE
AIR AND HIGHWAY

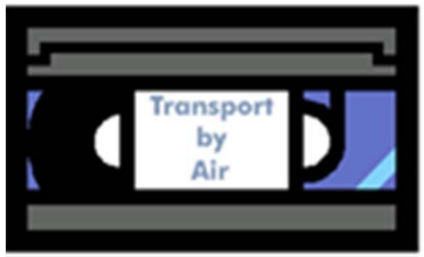


Hazardous Materials: General Awareness and Familiarization

Hazardous Materials Transportation Training Modules on CD-ROM



Ensuring Safety: Transporting Hazardous Materials by Air



Questions Comments

Got a HAZMAT Question later?
http://hazmat.dot.gov

1-800-467-4922 or (202)366-2301
FAX: (202)366-7342

Safety Summit

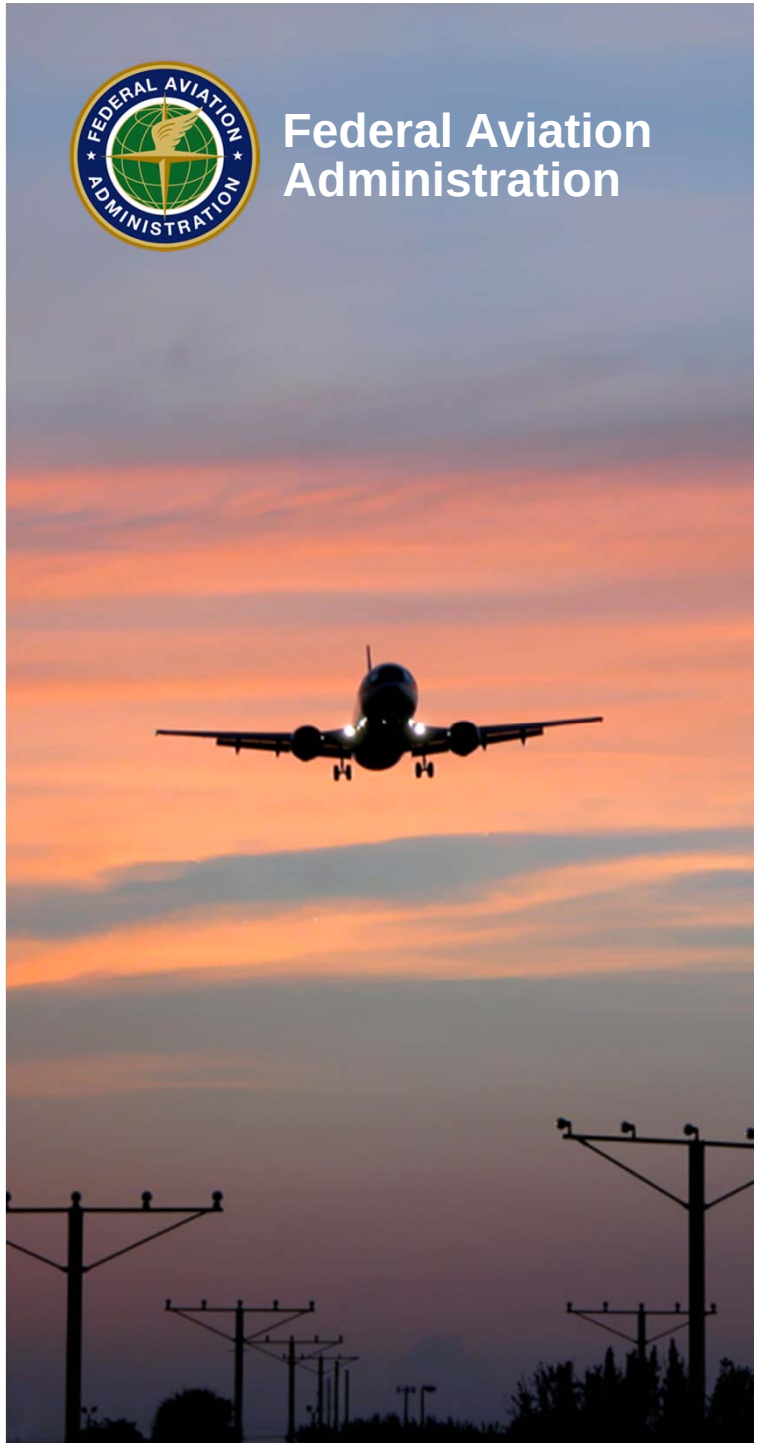
EASA CHANGES

What you need to know and how to comply

Presented to: **145 Air Agencies**

By:**Joe Gramzinski, Principal Maintenance Inspector**

Date: **Thursday March 22, 2012**



Maintenance Annex Guidance (MAG)
{significant revisions made}

- **The FAA & EASA recently issued a revision to the MAG.**

  The MAG originally released on May 3, 2011 and Change 1 was dated Nov. 22, 2011 but not signed by the FAA until Jan. 10, 2012
- **Most notably, the revision addresses a copy of the "LOI" and applicant response to any EASA Form 9 "non-recommendation" by the FAA.**

Maintenance Annex Guidance (MAG)

In addition to grammatical and formal modifications, the following significant changes were also made:

- **FAA now needs to send a annual report to the Joint Maintenance Coordination Board summarizing “systemic issues”.**
- **Added an EASA definition of Accountable Manager.**
- **Clarified that Level 1 findings are required to issue a “non-recommendation”.**

Maintenance Annex Guidance (MAG)

- **Reiterated throughout that the EASA Supplement must be “customized” to the Repair Station.**

- **Removed the requirement that EASA sends a renewal invoice (90) days before their EASA Certificate expires. Applicant is now responsible for sending its renewal pkg. to the FSDO (90) days prior to expiration.**

Maintenance Annex Guidance (MAG)

- **Clarified that EASA advance notification for a "one-time" special circumstance working away from a fixed location is not required for Repair Stations that have a D-100 authorization.**

- **Clarified that all renewal pkgs. Must include a new supplement, a Form 9 and Form 16. all EASA approval holders must have a new supplement in place by Dec. 31, 2012**

Maintenance Annex Guidance (MAG)

- **Clarified that if not the chief executive officer, the accountable manager must "have direct access to the chief executive officer and have sufficiency of maintenance funding allocation".**

- **Clarified that FAA Form 8130-3 dual release instructions should specify that "newly overhauled" be signed off in block20 against block 19 maintenance release.**

Maintenance Annex Guidance (MAG)

Added a paragraph noting that the clause "except as otherwise specified" is intended for use on an 8130-3 dual release form in two instances:

1. **The case where all required maintenance was not carried out.**
2. **The case where the particular maintenance requirement was only EASA-approved.**

Maintenance Annex Guidance (MAG)

- **Added a table summarizing what maintenance release form should be used depending on the location of the Repair Station and whether it is for new or used components.**
- **Added FAA 8130-3 / EASA Form 1 dual release sample instructions.**
- **Added a *sample audit* program.**

Maintenance Annex Guidance (MAG)

{Acceptance of Repair Data}

- **FAA and EASA have agreed to accept each other's systems for the classification and approval of repair data.**
- **Data must have a local approval**
  - *** FAA Approval for repairs designed in the US System;**
  - *** EASA Approval for repairs designed in the EU System**

Maintenance Annex Guidance (MAG)

{Acceptance of Repair Data}

- **<u>Remember</u>, FAA or EASA must approve/accept the repair design data under its own system before the other bilateral partner can accept it.**

- **Note: Critical Component Repair Data (by other than the TC/STC holder) will require <u>additional</u> review and approval by the FAA or EASA.**

Maintenance Annex Guidance (MAG)
{On-Line information}

- **Bilateral Agreement, Annexes, Maintenance Annex Guidance (MAG) and Technical Implementation Procedures (TIP)**

http://www.easa.europa.eu

http://www.faa.gov/aircraft/repair

Questions

Comments

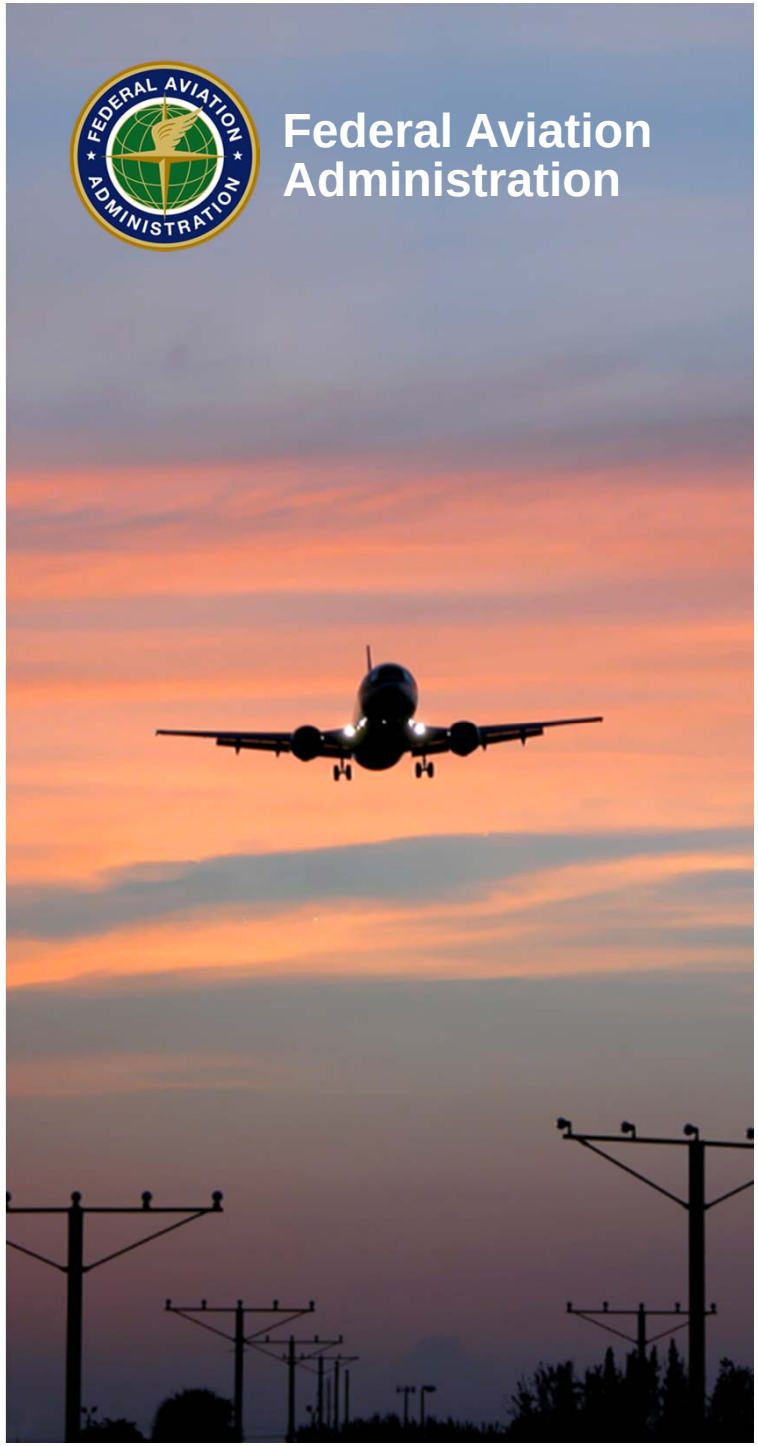
Safety Summit

BREAK

Presented to: **145 Air Agencies**

By: **Orlando FSDO-15, Management**

Date: **Thursday March 22, 2012**



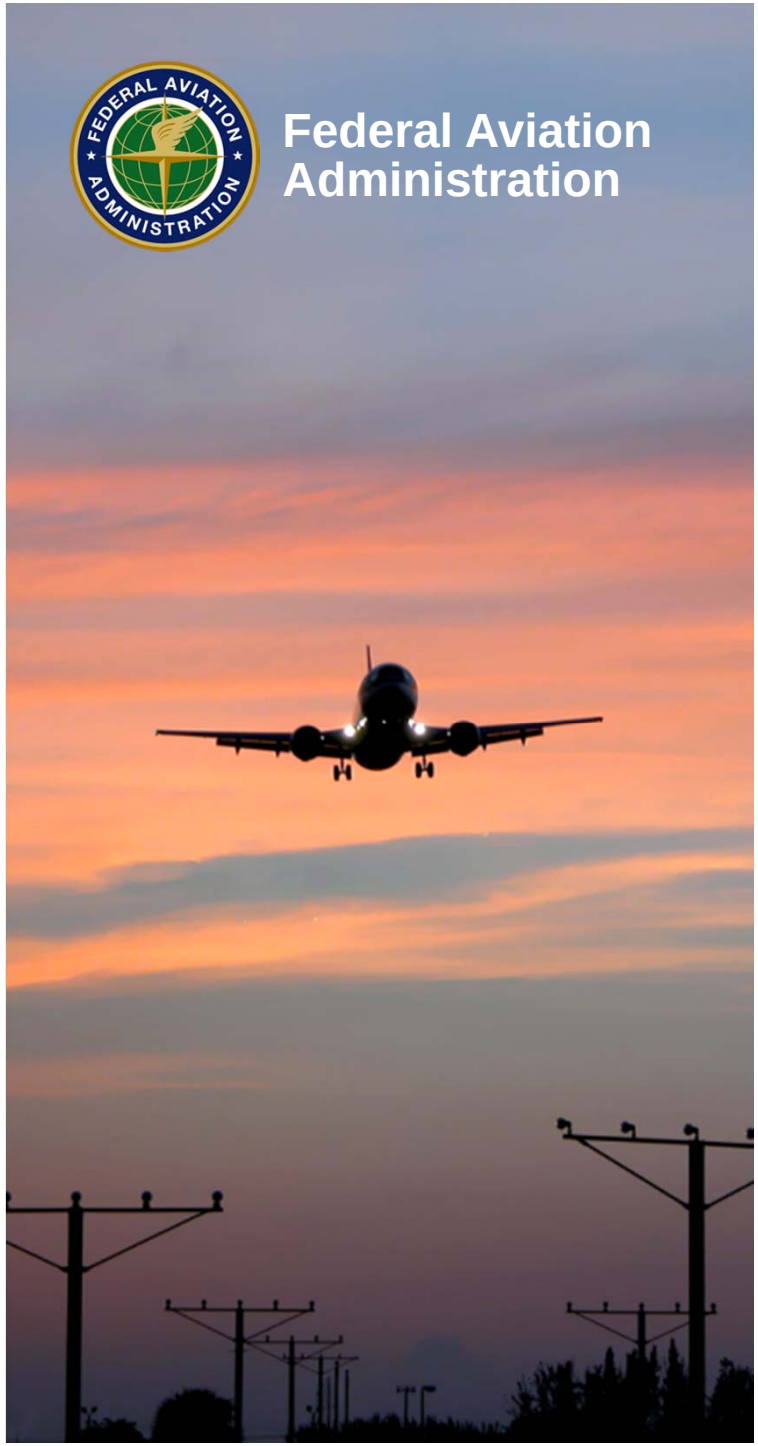
Safety Summit

Modifications

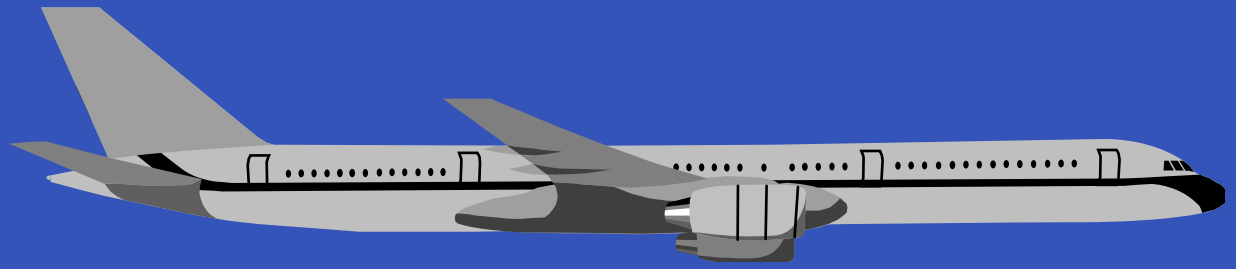
Presented to: **145 Air Agencies**

By: **Tony Alfaya, Principal Maintenance Inspector**

Date: **Thursday February 23, 2012**



“Aircraft Modifications / Alterations”



Title 14 of the Code of Federal Regulations (14CFR) .

- **Part 21 Certification Procedures for Products & Parts**
- **Part 23, 25, 27, 29 Airworthiness Standards**
- **Part 43 Maintenance, Rebuilding, & Alterations**
- **Part 91 General Operating and Flight Rules**
- **Part 135 Operating Requirements**
- **Part 145 Repair Stations**

"Case Law"

Relating to airworthiness reveals two conditions that must be met for an aircraft to be considered "airworthy."

Title 49, United States Code (49 U.S.C.) § 44704(c) and 14 CFR § 21.183(a), (b), and (c) state that the following two conditions necessary for issuance of an airworthiness certificate:

"First Condition"

The aircraft must conform to its Type Design….

Conformity to the Type Design is considered attained when the aircraft configuration and the engine, propeller, and articles installed are consistent with the drawings, specifications, and other data that are part of the Type Certificate (TC).

This includes any Supplemental Type Certificate (STC) and repairs and alterations incorporated into the aircraft.

"Second Condition"

The aircraft must be in a condition for safe operation. This refers to the condition of the aircraft relative to wear and deterioration, for example, skin corrosion, window delamination /crazing, fluid leaks, and tire wear, etc…..

§ 1.1 General Definitions

Major Alteration: *means an alteration not listed in the aircraft, aircraft engine, or propeller specifications (TC) —*

(1) That might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or

(2) That is not done according to accepted practices or cannot be done by elementary operations.

Minor Alteration: *means an alteration other than a major alteration. "Does not require FAA approval."*

"Type Design"

***Type Design** includes drawings, specifications, materials, processes, and the airworthiness limitations of the ICAs required to show compliance with applicable certification rules for the product.*

*If the alteration or repair is determined to be a **major** change to **Type Design**, a field approval will **not** be granted.*

***Type Design** changes **cannot** be **field approved** and require:*

1. *New **TC** (or)*
2. *Amendment to the **TC** (or)*
2. *Supplement to the **TC (STC)***

"Part 43 Appendix A- Major Alterations"

(1) *Airframe major alterations.* **Alterations of the following parts and alterations of the following types, when not listed in the aircraft specifications issued by the FAA.**

(2) Powerplant major alterations. ***The following alterations of a powerplant when not listed in the engine specifications issued by the FAA.***

(3) Propeller major alterations. ***The following alterations of a propeller when not authorized in the propeller specifications issued by the FAA.***

(4) Appliance major alterations. ***Alterations of the basic design not made in accordance with recommendations of the appliance manufacturer or in accordance with an FAA Airworthiness Directive.***

"Part 43 (Appen. B) Recording of Major Alterations"

(a) Except as provided in paragraphs (b), (c), and (d) of this appendix, each person performing a major repair or major alteration shall—

(1) Execute FAA Form 337 at least in duplicate;

(2) Give a signed copy of that form to the aircraft owner; and

(3) Forward a copy of that form to the FAA Aircraft Registration Branch in Oklahoma City, Oklahoma, within 48 hours after the aircraft, airframe, aircraft engine, propeller, or appliance is approved for return to service.

FAA Order 8900.1 "FSIMS" http://fsims.faa.gov

Volume 4, Chapter 9, Section 1

"Perform Field Approval of Major Repairs and Major Alterations"

Data may be presented in various forms, but all data will fall into one of two categories: acceptable to the FAA, or approved by the FAA.

***Acceptable Data** is data that you can reasonably expect the FAA to find acceptable for the purpose it was created. Examples may include the drawings and specifications, maintenance manuals, etc….. that are necessary to define the repair or alteration.*

***Approved Technical Data** the drawings and specifications, including a listing of the drawings and specifications needed to define the configuration and design features of a particular article, repair, or alteration.*

***NON-TSO & NON-PMA Parts** may **not** be used as approved parts unless they have been FAA approved via an STC or TC.*

"FAA Approved Data"

The following list, although not all-inclusive, contains sources of Approved Data:

**** TCDS, Type Certificate Data Sheet.***
**** AC 43.13-1b/-2b, are approved data, when the AC chapter, page, and paragraph are listed in block 8 of FAA form 337.***
**** A/Ds, Airworthiness Directives.***
**** DER, Designated Engineering Representative.***
**** FAA Approved SB or SL, Service Bulletin/Letter.***
**** STC, Supplemental Type Certificate.***
**** AML/STC, STC with an Approved Model List.***
**** ODA, Organization Designation Authorization.***
**** Field Approval, FAA Approval of Acceptable Data.***

"Field Approvals"

AC 43-210 STANDARDIZED PROCEDURES FOR REQUESTING FIELD APPROVAL OF DATA, MAJOR ALTERATIONS, AND REPAIRS.

There are two types of field approvals:

1. ***Examination of data only- This is the most common kind of field approval. The applicant submits data that is acceptable to the Administrator, and FAA inspector approves the data by signing block 3 of FAA Form 337.***

2. ***Physical Inspection- The applicant submits a request for approval and the inspector physically inspects the alteration and approves the alteration by signing block 3 of FAA Form 337. (normally by unknown persons)***

Do not cut metal, string wire, or install equipment until the field approval is granted!

"Follow-On Field Approval"

Approval of equipment of the same make and model on an aircraft using data from the initial field approval or a previously approved alteration (STC or TC). The make and model of the aircraft may be different for generic applications such as avionics installations, as long as the aircraft & installation are similar.

Initial Approval- the first field approval, STC, or TC that include the installed equipment on a similar make and model aircraft.

Similar Aircraft- same certification basis, similar design type, material, and technology.

"Designated Engineering Representative (DER)"

AC 183.29-1, DER Consultant Directory.

DERs are representatives (designees) of the Administrator who may approve or recommend approval to the FAA of data.

DER's authority is limited to specific functions. If a DER is limited to a specific area, data from more than one DER may be necessary and/or an FAA field approval may be required to complete the alteration.

FAA Form 8110-3 specifying "Recommend for Approval" does not constitute an approval but is usually eligible to support a field approval by the ASI.

"Instructions for Continued Airworthiness (ICA)"

"See Handout"

If the repair or alteration data is approved solely by the DER(s) but necessitates ICA in addition to the maintenance recording requirements of part 43, § 43.9, the ICA should be prepared by the applicant and recorded in block 8 of FAA Form 337.

The ICA Checklist (Figure 4-66) should be used as a guide for the applicant who creates the ICA. The ICA developed in accordance with this guidance is acceptable to the Administrator and therefore is not required to be reviewed by he FAA.

The ICA also may introduce additional maintenance requirements that many times are not accomplished and/or tracked.

"Organization Designation Organization (ODA)"

ODA-approved data could be documented by either FAA Form 8100-9, Statement of Compliance with Airworthiness Standards, or FAA Form 8100-11, Organization Designation Authorization Statement of Completion, or both.

If the data is only documented by FAA Form 8100-9, the form should note which aspects are covered by the data, and might be included in the data package to support a field approval request.

If the data is also documented by FAA Form 8100-11, and the approval addresses all aspects of the repair or alteration, then field approval is not necessary.

"Aircraft Flight Manual Supplements (AFMS)"

"See Handout"

ASIs have a limited Authority to review & approve AFMS.

The requirements for AFMS are determined at the time of initial approval (STC) & are normally listed on the STC Cover Page. Many STC cover pages also call out the required Pilot's Operating Handbook.

An AFMS approval may be necessary from the ACO when an ASI is not specifically authorized to review and approve as described by Information for Operators (InFO) 08047.

The ASI should confirm through the applicant that the configuration of the equipment and systems, as installed, are described or properly characterized.

"Operational Flight Check vs. Flight Testing"

Any repair or alteration that has been determined to be major or that may substantially affect the aircraft's operation may require an operational flight check in accordance with § 91.407 (a) and (b). Following successful completion, the results are recorded in the aircraft records.

An alteration that requires a flight test to show compliance with the regulations I.A.W. requirements of § 21.191(b) "21.35" must be coordinated with the appropriate ACO or authorized flight test DER. The MIDO or authorized DAR must issue an experimental A/W certificate for the purpose of showing compliance I.A.W. the FAA Order 8130.2, Airworthiness Certification of Aircraft and Related Products.

"Eligibility Considerations for Field Approval"

"See Handout"

1. ***Items with the letters "STC" require an STC and cannot be field approved or approved by DER.***
2. ***Items with the letters "EVL" may be field approved, depending on the scope & complexity of the alteration. They will not automatically qualify for a field approval. They must be evaluated.***
3. ***Items with the letters "ENG" may be field approved, but require either supporting DER or ODA approved engineering data or concurrence from the ACO for issuance of field approval.***

"Damage Tolerance/Fatigue Evaluation of Structure"

***AC 25.571-1C** Damage Tolerance and Fatigue Evaluation of Structure*

***Damage tolerance** means that the structure has been evaluated to ensure that should serious fatigue, corrosion, or accidental damage occur within the operational life of the airplane, the remaining structure can withstand reasonable loads without failure or excessive structural deformation until the damage is detected.*

Data approval** requires a person who has comprehensive knowledge of the specific design philosophy, loading spectrum, and fracture mechanics techniques used in that particular design. Due to these qualifications of the specialist, responsibility for the assessment may be **restricted** to staff members of the airframe **manufacturer**, **certain DERs**, the FAA, or **certain SFAR 36 engineering staff.

§ 23/25.1301 Function and installation

Each item of installed equipment must—

(a) Be of a kind and design appropriate to its intended function.

(b) Be labeled as to its identification, function, or operating limitations, or any applicable combination of these factors; and

(c) Be installed according to limitations specified for that equipment.

§ 23/25.1309 Equipment, systems, and installations.

The requirements of this section, except as identified in paragraphs (a) through (d), are applicable, in addition to specific design requirements of part 23, to any equipment or system as installed in the airplane. This section is a regulation of general requirements and does not supersede any requirements contained in another section of part 23.

(a) The airplane equipment and systems must be designed and installed so that:

(1) Those required for type certification or by operating rules perform as intended under the airplane operating and environmental conditions, including the indirect effects of lightning strikes.

(2) Any equipment and system does not adversely affect the safety of the airplane or its occupants, or the proper functioning of those covered by paragraph (a)(1) of this section.

§ 23/25.1309 "Continued"

(c) The airplane systems and associated components considered separately and in relation to other systems, must be designed and installed so that:

(1) Each catastrophic failure condition is extremely improbable and does not result from a single failure;

(2) Each hazardous failure condition is extremely remote; and

(3) Each major failure condition is remote.

(d) Information concerning an unsafe system operating condition must be provided in a timely manner to the crew to enable them to take appropriate corrective action. An appropriate alert must be provided if immediate pilot awareness and immediate or subsequent corrective action is required. Systems and controls, including indications and annunciations, must be designed to minimize crew errors which could create additional hazards.

§ 23/25.1431 Electronic Equipment

(a) In showing compliance with §23.1309(a), (b), and (c) with respect to radio and electronic equipment and their installations, critical environmental conditions must be considered.

(b) Radio and electronic equipment, controls, and wiring must be installed so that operation of any unit or system of units will not adversely affect the simultaneous operation of any other radio or electronic unit, or system of units, required by this chapter.

(c) For those airplanes required to have more than one flightcrew member, or whose operation will require more than one flightcrew member, the cockpit must be evaluated to determine if the flightcrew members, when seated at their duty station, can converse without difficulty under the actual cockpit noise conditions when the airplane is being operated.

§ 23/25.1431 "Continued"

(C) "Continued" If the airplane design includes provision for the use of communication headsets, the evaluation must also consider conditions where headsets are being used. If the evaluation shows conditions under which it will be difficult to converse, an intercommunication system must be provided.

(d) If installed communication equipment includes transmitter "off-on" switching, that switching means must be designed to return from the "transmit" to the "off" position when it is released and ensure that the transmitter will return to the off (non transmitting) state.

(e) If provisions for the use of communication headsets are provided, it must be demonstrated that the flightcrew members will receive all aural warnings under the actual cockpit noise conditions when the airplane is being operated when any headset is being used.

§ 23/25.1308 High-intensity Radiated Fields (HIRF) Protection

(d) Before December 1, 2012, an electrical or electronic system that performs a function whose failure would prevent the continued safe flight and landing of an airplane may be designed and installed without meeting the provisions of paragraph (a) provided—

(1) The system has previously been shown to comply with special conditions for HIRF, prescribed under §21.16, issued before December 1, 2007;

(2) The HIRF immunity characteristics of the system have not changed since compliance with the special conditions was demonstrated; and

(3) The data used to demonstrate compliance with the special conditions is provided.

"Burn Certifications"

***Flammability tests**, require an FAA-approved test plan, including the conformity of test specimens **witnessed** by an **FAA or FAA-designee inspector**.*

*FAA-designee inspector **must verify** that the article or product being tested **conforms to approved data** or processes or material specifications.*

***Wire** added to the airplane must have **self-extinguishing insulation** equal to or better than that originally approved under the airplane TC, unless it is inside an enclosure which is sufficiently airtight that internal combustion cannot be sustained.*

Questions

Comments

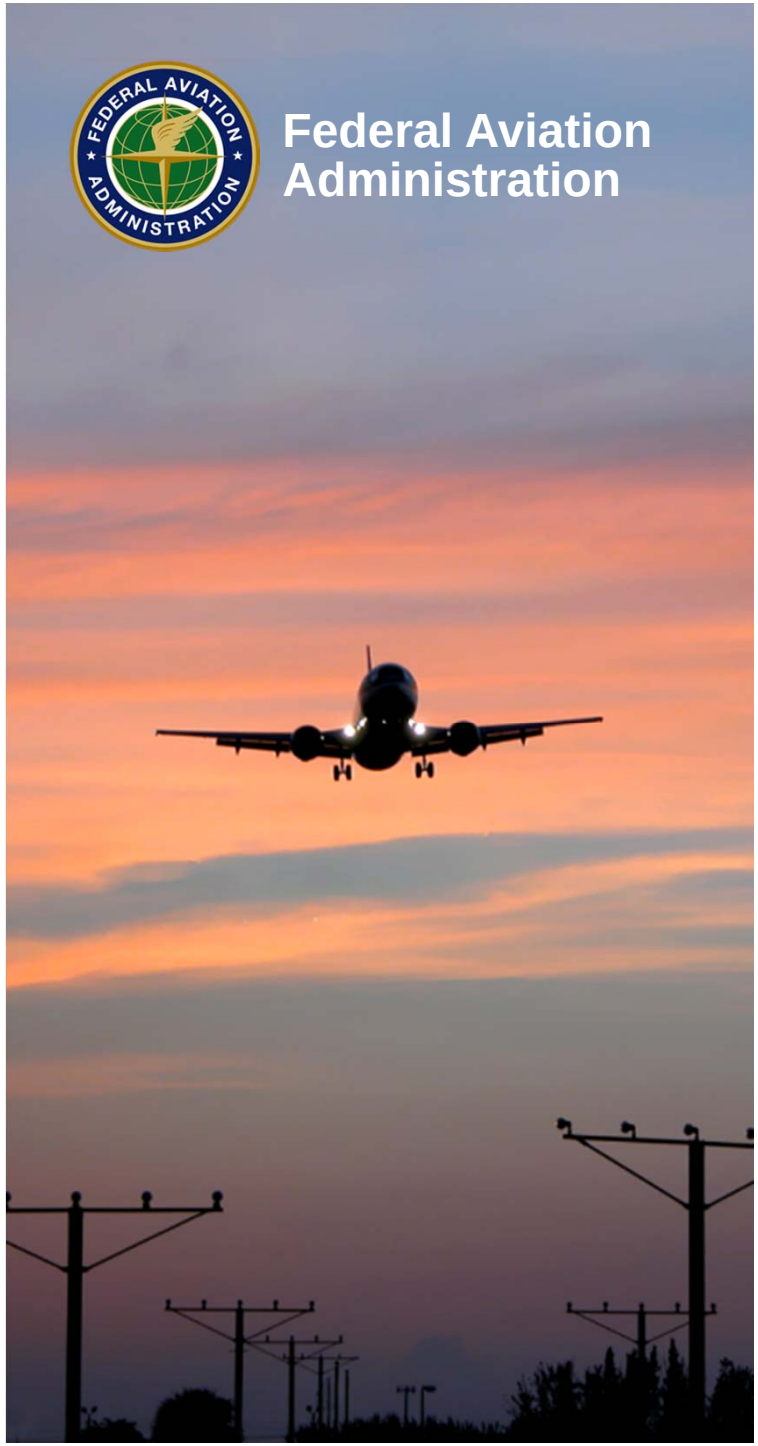
Safety Summit

Special Light Sport Aircraft

Presented to: **145 Air Agencies**

By: **Al Kimball, Principal Maintenance Inspector**

Date: **Thursday March 22, 2012**



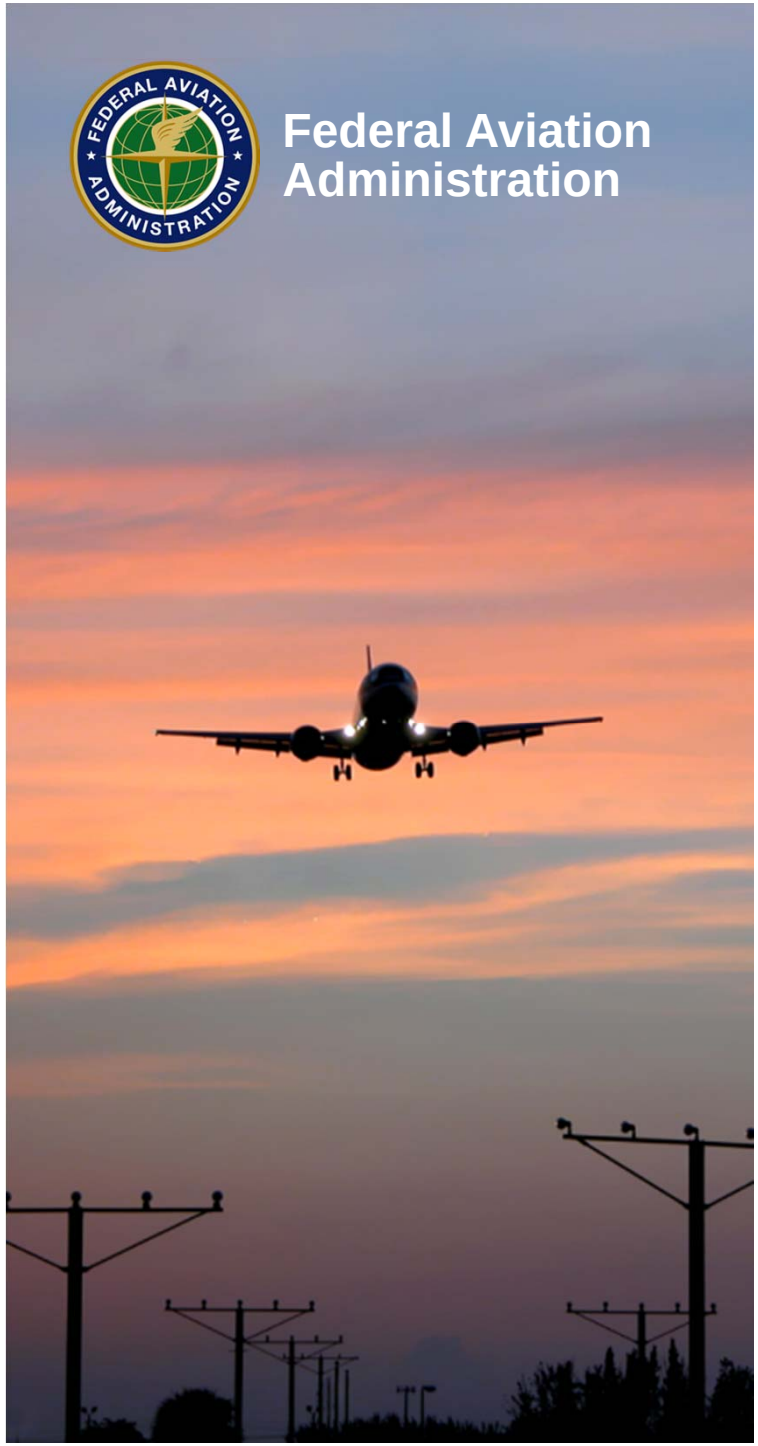
Safety Summit

14 CFR Part 145 Air Agency Surveillance Trends

Presented to: **145 Air Agencies**

By: **Jim Reedy, Frontline Manager**

Date: **Thursday March 22, 2012**



FAA data surveillance sampling (past 12 months)

- **Over 2560 records reviewed**
- **460 records contained unsatisfactory or potential comment information**
- **2100 additional records reviewed with informational comments**

FAA data surveillance sampling (past 12 months)

- **All SO15 - 14 CFR Part 145 Operators' data analyzed**
- **Airworthiness and Avionics functions**
- **Routine-Systematic approach used to analyze the data**
- **FAA Program Tracking and Reporting System (PTRS) used exclusively for data collection**

Program Tracking and Reporting System (PTRS)

- **Risk based analysis conducted continuously**
- **Previous inspection history/performance is used to determine risk**
- **Information entered into database following each FAA inspection**
- **FAA PTRS Codes are used to identify problem areas**

Flight Standards Information Management Systems (FSIMS)

All guidance and regulatory information used is available

to the Air Agency.

»**FSIMS**

Example of discrepancy found during FAA inspection

The Top 10 areas of concerns that the Inspectors indicated in their PTRS records are as follows:

Certificated & Non Certificated Contract Maintenance Providers

13 Potential, 8 Unsat, 1 Enforcement

Summary:

- **Repair station contracts out maintenance functions; the repair station does not have maintenance function authorization approval. Repair Station/Quality control manual (RS/QCM) has no procedures for contract maintenance.**
- **Vendor audits incomplete.**
- **Repair station contract out maintenance functions to Non-certificated facilities in which they do not have the ratings for.**

Maintenance/Avionics Non Conformities

PTRS CODE – 3663/5663 or 3607/5607

Inspecting a Repair Station's Maintenance Process

16 Potential, 5 Unsat, 3 Enforcement

Summary:

Equivalency for tooling was not accomplished.

- **Repair Station needs to ensure the tooling and equipment used is equivalent**
  - the use of equipment, tools, or material that is not equivalent to those recommended by the manufacturer would be contrary to 145.109(c) and 43.13(a).
- **Procedures need to be included in the Repair Station Manual to include:**
  - how equivalency is determined, who determines equivalency, and how is it documented if the repair station is using special equipment, tools or materials other than those recommended by the manufacturer.
- **Accessory Part number was added to capabilities list without all the required tooling.**

Maintenance/Avionics Non conformities

PTRS CODE – 3654/5654

Record Systems
11 Potential, 11 Unsat, 2 Enforcement

Summary:

- **During our inspection we were unable to verify a current Line Maintenance contract with XYZ airline, including the type of Line Maintenance and the make and model of each aircraft and each aircraft engine, if applicable.**
  - It appears that your contractual agreement to perform Line Maintenance had been terminated for 12-months.
- **XYZ have changed the location of your Repair Station housing without written approval from the FAA, which is contrary to Title 14 of the Code of Federal Regulations (14CFR) Part 145.105.**
- **During a review of closed work orders (WO), it was discovered that WO #0000 dated ??? that part # ??? was not on XYZ capabilities list.**
  - This is contrary to 14CFR part 145.5(a). A violation will be processed
- **Repair Station is using electronic signatures and record keeping without the appropriate authorization in the operation specifications.**
  - Procedures in Repair Station/Quality Control manual (RSM/QCM) need to include specific requirements in order to use electronic signatures and electronic record keeping systems.

Operations Non Conformity

PTRS CODE – 3605/5605

Housing and Facilities
14 Potential, 8 Unsat

Summary:

- **Repair Station housing and facility diagram needs to identify the repair station areas.**
  - –The diagram in the manual is not identified and incorrect with the actual facility, page number, revision status incorrect
- **The location of your Repair Station housing has changed without written approval from the FAA, which is contrary to 14CFR Part 145.105.**
- **It was observed there were “O” rings and lubricant being used and expired.**
- **The Avionics Shop had ESD mats but they were not being used or maintained properly.**

Maintenance/Avionics Non conformities

PTRS CODE – 3657/5657

Inspection of Parts & Materials
13 Potential, 8 Unsat

Summary:

- **Parts are not segregated;**
  - material expiration dates are not tracked,
  - articles are not tagged in accordance with the RSM / QCM.
- **The repair station was found to be in adequate condition in this area.**
- **There were multiple racks of components with no documentation of the part status.**

Maintenance Non Conformity

PTRS CODE – 3601/5601

Manual & Documents
13 Potential, 10 Unsat

Summary:

- **When performing the self evaluation to add an article to the capabilities list, the RSM/QCM procedures need include:**
  - instruction when a limitation to an article is required.
  - How is the limitation determined,
  - what limitation is required
  - how is it documented?
- **The repair station needs to include specific procedures in the manual when performing self evaluation on articles:**
  - specifically when a tear down of the article is required in order to ascertain whether or not the repair station is capable of performing maintenance on the article.
  - How are articles segregated and identified throughout the evaluation process?

Maintenance Non Conformity

PTRS CODE – 3660/5660

Personnel Records
14 Potential, 12 Unsat = 1 Enforcement

Summary:

- **Inspected employee roster and employment summaries.**
  - Summaries did not have enough information, found to be inadequate several corrections are needed.
- **Air Agency could not provide any documentation to confirm that its employees are properly trained for the job functions they are performing.**
  - Air Agency will need to revise personnel records to provide evidence of training.

Maintenance Non Conformity

PTRS CODE – 3659/5659

Management Requirements
16 Potential, 12 Unsat = 5 Enforcements

Summary:

- **Self-evaluation by the Director of Quality to add an aircraft to capability list was incomplete.**
  - The availability of equipment, tools, and material at the facility could not be determined.
  - The evaluation indicated that a manual listing was attached but such a list was not included with the copy provided during this site visit.
- **The Repair Station surrendered it airframe and power plant ratings and amended OpSpecs were issued in late 2006,**
  - but it was still performing maintenance and alteration of aircraft under its repair station certificate. Accountable Manager was aware.

Maintenance Non Conformities

PTRS CODE – 3604/5604

Training and Curriculum
28 Potential, 20 Unsat = 3 Enforcements

Summary:

- **Training program recordkeeping was deficient.**
  - Initial training was not recorded or was incomplete.
  - OJT tasks were not signed off by an instructor.
  - Director of Maintenance/Chief Inspector had no training documented.
- **Operators training program failed to train in-coming inspection personnel on the proper identification of mechanical accessories versus electrical accessories which led to the introduction of articles into the repair cycle on aviation articles for which the repair station is not rated.**

Maintenance Non Conformities

PTRS CODE – 3661/5661

Repair Stations Quality Control System Review

38 Potential, 13Unsat = 6Enforcement

Summary:

Maintenance Actions not IAW Company Policy

- **Quality Control System manual contents**
  - Air Agency is not following its own manual.
  - Air Agency work orders do not document a preliminary inspection, hidden damage, any required in-process requirements, nor for any final inspection.
  - Operator using discrepancy logs from, which is not include in procedures of quality manual.
- **Quality control system failed to properly identify articles received during the in-process inspection.**
  - Articles were brought into repair cycle without a self-evaluation being accomplished and additionally not being listed on current capabilities list.

Maintenance Non Conformities

PTRS CODE – 3608/5608

The Fix

- **FAA Certificated Air Agencies completely understand the regulatory requirements of the certification and their own written procedures; The FAA is not your quality Control for your procedures! It is up to you to submit documents that meet the required guidance and regulations**
- **Strengthen own internal audit procedures to identify and address systemic issues within company**
- **Increased responsiveness to corrections and findings outlined during FAA inspections**

Questions

Comments

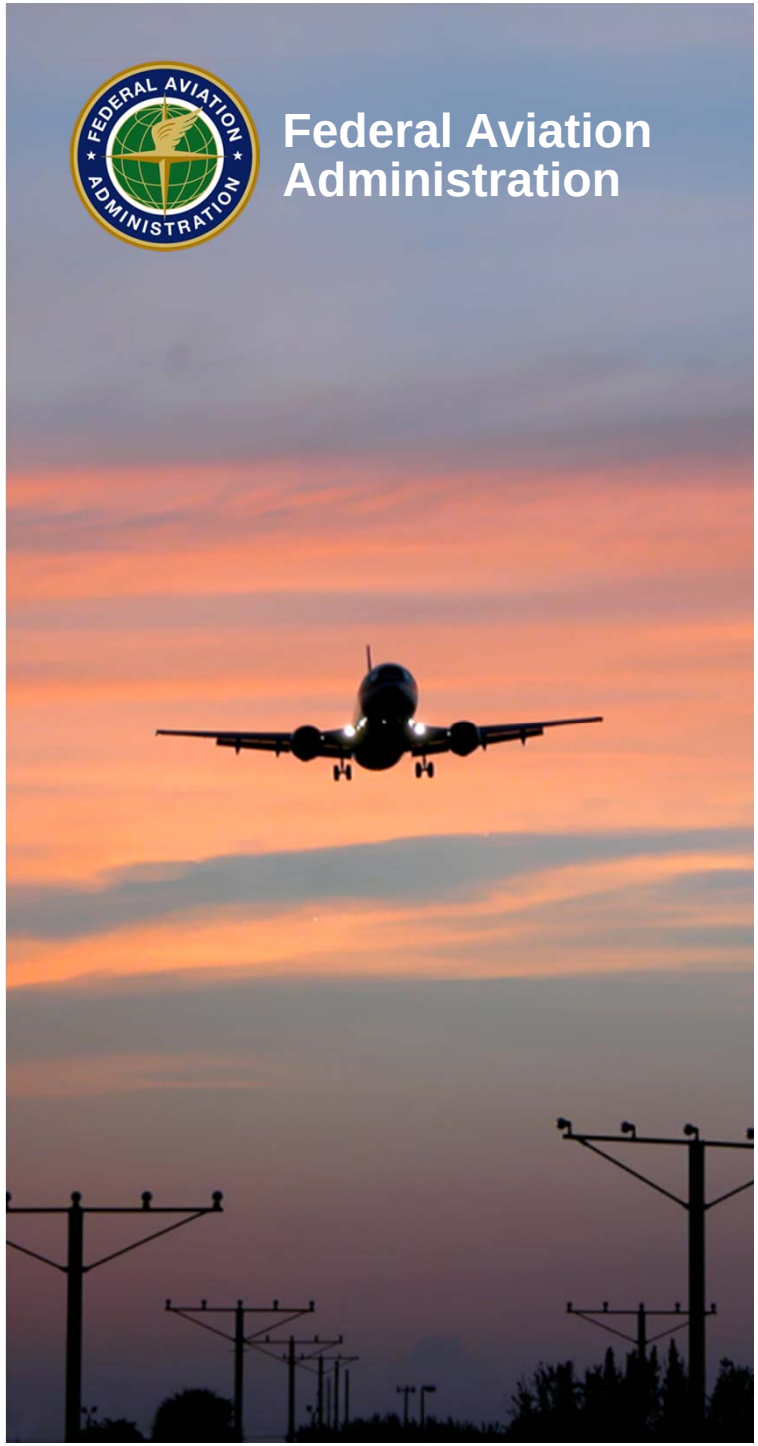
Safety Summit

BREAK

Presented to: **145 Air Agencies**

By: **Orlando FSDO-15, Management**

Date: **Thursday March 22, 2012**



Safety Summit

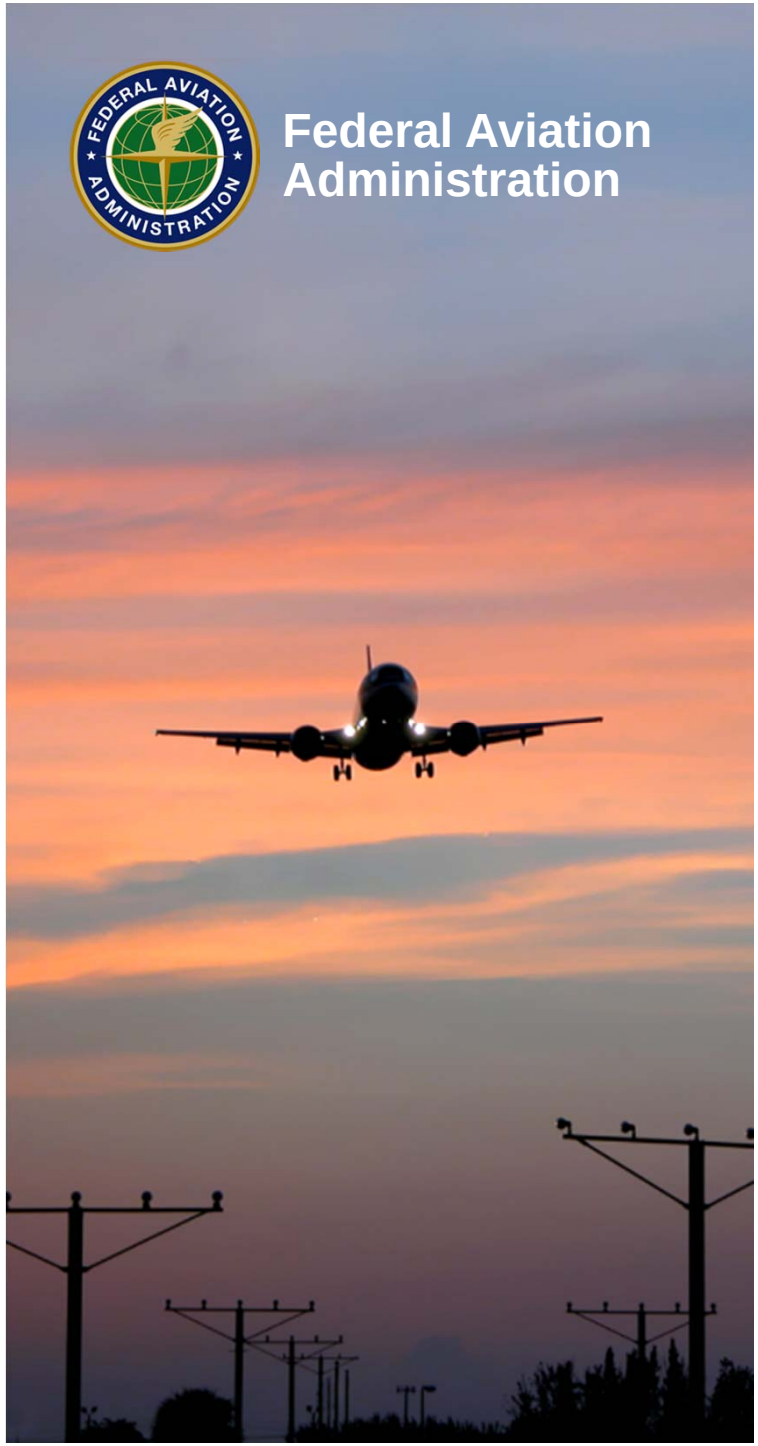
Next Gen

The Future of Aviation

Presented to: **135 Air Operators**

By: **Orlando FSDO-15, Management**

Date: **Thursday February 23, 2012**



Questions

Comments

Let's Hear From You…